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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER	
CHAWAN, S	
ART UNIT	**PAPER NUMBER**
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DATE MAILED: 08/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/262,778	Michael J.penberth
Examiner	**Art Unit**
Sheela Chawan	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some* c)☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☒ Notice of References Cited (PTO-892)

16)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18)☐ Interview Summary (PTO-413) Paper No(s). _____

19)☐ Notice of Informal Patent Application (PTO-152)

20)☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because of draftsperson's remarks (see attached PTO-948).

Correction is required.

Claim Objections

3. Claim 2 is objected to because of the following informalities:

In claim 2 , page 24 , line 6, need -- ; -- .

In claim 2, page 24 , line 9 , change " . " to -- ; -- .

In claim 2, page 24, line 13 , need -- ; -- .

In claim 2, page 24, line 16, need -- ; -- .

Similarly all the claims need to be corrected .

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 4 and 5 , are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa (US. 4, 481,666) in view of Kresock (US. 5, 666,032) .

As per claims 1 and 4, Niwa teaches a method for determining the position of a feature within the scan that is effective at the operating frequency of the scan and using a limited bandwidth video signal, comprising the steps of:

determining the reference feature to be an edge over which the video signal changes abruptly (column 1, lines 22 - 63, column 2, lines 1 - 4) from one level to a higher or lower level (column 1, lines 20 - 49) ;

determining whether the beam is only turned on over a short region of the scan (column 4, lines 31 - 47) ; and

Although Niwa discloses reading -out apparatus for reading out features such as characters, marks, etc. recorded or labeled on box , card, etc. by processing a video signal obtained by scanning the features, but fails to specifically mention overlap between the beam on portion of the scan ... . However, Kresock discloses linear scan control for a CRT display system method and apparatus for electron beam lithography . The system comprises of :

representing the degree of overlap (note, degree of overlap is the total video signal accumulated , column 4, lines 1 - 25 ,) between the beam on portion of the scan and the higher video level part of the feature as the total video signal accumulated in that scan (column 4, lines 59 - 67) , as shown by Kresock the use of overlap between the beam on portion of the scann and higher video level ... . because this would provided an improved and a high degree of scan linearity is achieved and the linearity is highly uniform among different CRT display systems (column 2, lines 14 - 37) .

Kresock and Niwa are combined because they both teach a method and apparatus for processing linear scan control for a CRT display system .

At the time of invention, it would have been obvious to one having ordinary skill in the art to use Kresock for overlap between the beam on portion of the scann and higher video level ... information in Niwa 's apparatus .

The motivation for combining would have been obvious because this would provided an improved and a high degree of scan linearity is achieved and the linearity is highly uniform among different CRT display system .

As to claim 5, Kresock teaches the method of Claim 1, further wherein the steps include:

using the high to low, low to high video transition as a reference feature (column 1, lines 27 - 40) ;

unblanking the electron beam for a short period during the scan (column 3, lines 17 - 38, 17 - 55) ;

advancing the unblank-blanked period along the line by a small increment each succeeding scan (column 3, lines 20 - 55) sampling the video amplifier output using an analog-to-digital converter (column 3, lines 1 - 15) at a time delay following the unblank-blanked period (column 4, lines 56 - 67) , said time delay determined by the video amplifier bandwidth (column 4, lines 1 - 67) ;

a means of stepping the unblank-blanked period along the line by sub pixel increments by inserting a programmable delay between the blanking pulse generator and the blanker itself (column 3, lines 16 - 67, column 4, lines 1 - 10) .

As per claim 2, Niwa teaches a method for determining the position of a feature within the scan that is effective at the operating frequency of the scan and using a limited bandwidth video signal, comprising the steps of:

using a sample having a black to white video transition as a reference feature (column 1, lines 22 - 63, column 2, lines 1 - 4) ;

mathematically processing the representative video profile to yield the position of the video edge with respect to the scan (column 1, lines 20 - 48) ;

Although, Niwa discloses reading -out apparatus for reading out features such as characters, marks, etc. recorded or labeled on box , card, etc. by processing a video signal obtained by scanning the features, but fails to specifically mention about unblanking the beam for a short period advancing the unblanked period along the line by a small increment each succeeding scan. However, Kresock discloses linear scan control for a CRT display system . The system comprises of :

unblanking the beam for a short period advancing the unblanked period along the line by a small increment each succeeding scan (column 3, lines 17 - 38, 17 - 55) ;

sampling the amplifier (column 5, line 44) output by an analog-to-digital converter (column 3, lines 8 - 15) at a time delay following the unblank-blank period determined by the video amplifier bandwidth (column 3, lines 1 - 55) ;

arranging the successive samples for giving a video profile (column 2, lines 21 - 32) representative of the video profile of a slow scan with a wide beam (column 4, lines 28 - 38), as shown by Kresock the use of unblanking the beam for a short period advancing the unblanked period along the line by a small increment each succeeding scan because this would provide an improved linear scan control for a CRT display , and in particular to scan control circuits for producing highly linear beam scanning in the CRT (column 1, lines 5 - 8) .

Kresock and Niwa are combined because they both teach linear scan control for a CRT display system .

At the time of invention, it would have been obvious to one having ordinary skill in the art to use Kresock for unblanking the beam for a short period advancing the unblanked period along the line by a small increment each succeeding scan information in Niwa 's apparatus .

The motivation for combining would have been obvious because this would provide an improved linear scan control for a CRT display , and in particular to scan control circuits for producing highly linear beam scanning in the CRT (column 1, lines 5 - 8) .

6. Claim 3 , is rejected under 35 U.S.C. 103(a) as being unpatentable over Houchin et al., (US. 5, 047, 861), in view of Kresock (US. 5, 666, 032) .

As per claim 3, Houchin teaches a method of electronically measuring parameters of a beam in a raster scan system comprising the steps of:

(a) Choosing a predetermined plurality of pixels of said raster scan to be calibrated (column 3, lines 35 - 56) ;

(b) moving at least one feature at the image plane having video contrast adjacent to the landing point of said plurality of pixels (column 4, lines 44 - 68) ;

© strobing said beam for said plurality of pixels within said raster scan (column 3, lines 48 - 56) ;

(e) integrating the signal resulting from said plurality of pixels as said plurality of pixels move towards said at least one video contrast feature (column 3, lines 39 - 56) ; and

(f) repeating steps © through (e) until said plurality of pixels crosses said at least one video contrast feature (column 3, lines 37 - 56) .

Although , Houchin et al., discloses method and apparatus for pixel non-uniformity correction , but fails to specifically mention incrementally moving plurality of pixels within raster scan ... . However, Kresock discloses linear scan control for a CRT display system .The system comprises of :

(d) incrementally moving said plurality of pixels column 3, lines 20 - 35, note, image is made up of pixel ideally , by increment and by adding to the scan waveform to achieve elimination of the effects of distortion during initial scan would be an instantaneous increase to the desired step level within said raster scan toward said at least one video contrast feature (column 2, lines 30 - 32), as shown by Kresock the use of incrementally the plurality of pixels because this would provide an improved linear scan control for a CRT display , and in particular to scan control circuits for producing highly linear beam scanning in the CRT (column 1, lines 5 - 8) .

Kresock and Houchin are combined because they both teach linear scan control for a CRT display system .

At the time of invention, it would have been obvious to one having ordinary skill in the art to use Kresock for mention incrementally moving plurality of pixels within raster scan ... . information in Houchin 's apparatus .

The motivation for combining would have been obvious because this would provide an improved linear scan control for a CRT display , and in particular to scan control circuits for producing highly linear beam scanning in the CRT .

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tokumitsu et al., (US.5,526,044) discloses movement detection device and focus detecting apparatus using such device .

Wasserman (US. 5, 260, 779) discloses method and apparatus for inspecting a printed circuit board .

Itoh et al., (US. 5, 468, 969) discloses method and apparatus for electron beam lithography .

Sandland et al., (US. 4, 644, 172) discloses electronic control of an automatic wafer inspection system .

Terao et al., (US. 5, 677, 743) discloses apparatus and method for synchronizing a horizontal deflection signal with a horizontal sync signal .

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Chawan whose telephone number is (703) 305-4876.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau , can be reached at (703) 305- 4706.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872 - 9314, (for formal communications intended for entry)

Or: Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703)305-3900.

Sheela Chawan
Patent Examiner
Group Art Unit 2721
August 24, 2001

Matthew C. Bella
Primary Examiner